Apple Dot Matrix Printer



Operator's Guide

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Radio and Television Interference

The equipment described in this manual generates and uses radio frequency energy. If it is not installed and used properly, that is, in strict accordance with our instructions, it may cause interference to radio and television reception.

This equipment has been tested and complies with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules. These rules are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that the interference will not occur in a particular installation.

You can determine whether your computer equipment is causing interference by turning it off. If the interference stops, it was probably caused by the equipment. If your equipment does cause interference to radio or television reception, you can try to correct the interference by using one or more of the following measures:

- Turn the TV or radio antenna until interference stops.
- Move the equipment to one side or the other of the TV or radio.
- Move the equipment farther away from the TV or radio.
- Plug the equipment into an outlet that is on a different circuit from the TV or radio. (That is, make certain the equipment and the TV or radio are on circuits controlled by different circuit breakers or fuses.)

If necessary, you should consult your dealer or an experienced radio/television technician for additional suggestions. You may find the following booklet prepared by the Federal Communications Commission helpful:

"How to Identify and Resolve Radio-TV Interference Problems"

This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock number 004-000-00345-4.

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Reorder Apple Product #A2L0067



Dot Matrix Printer

Operator's Guide

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Part 1. The First Step

Congratulations! You have just acquired a new Apple Computer Dot Matrix Printer (DMP). This booklet is designed to help you get your printer set up and running through its paces in about thirty minutes.

The first step in this process is to identify the type of Apple Computer System you will be connecting to your new printer. Check the front panel on your computer cabinet. Mark the box which matches your equipment.

☐ **Apple II Series** ☐ **Apple III Series**

Special items needed to connect the Dot Matrix Printer to your Apple Computer:

Apple II Series Computer

Apple II Parallel Interface Card
Apple DMP Connecting Cable Kit

Apple III Series Computer

Apple III Universal Parallel Interface Card
Apple DMP Connecting Cable Kit

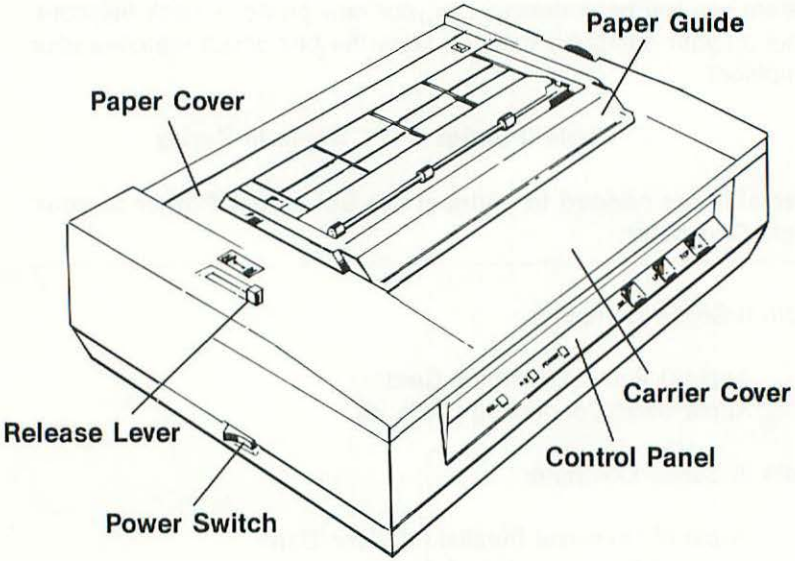
You may also want to have on hand some pin-feed, fanfold computer paper. All of these items are readily available from your nearest Apple Computer Dealer.

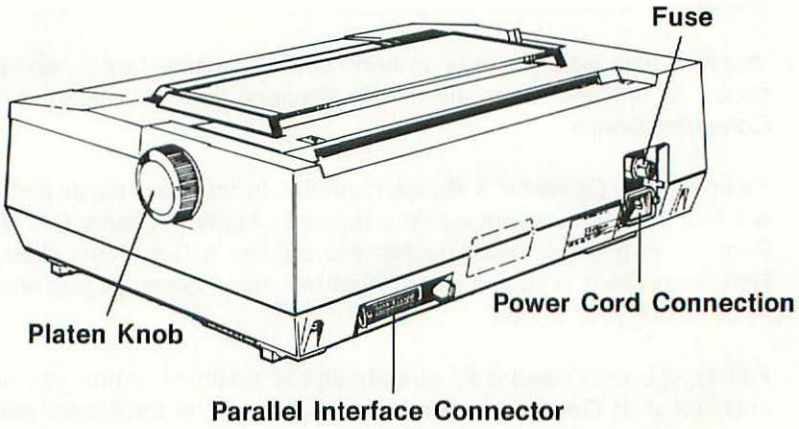
Examine this **Operator's Guide** carefully. In the front cover pocket you will find a demonstration diskette entitled "Apple Presents Dot Matrix Printer." In the rear cover pocket you will find a Dot Matrix Printer Reference Card. You will refer to both of these items as you learn more about your printer.

Finally, you may need a 6" straight slot screwdriver. When you have checked your **Operator's Guide** and collected the necessary parts and tools, you have completed the first steps, and you are ready to unpack your new computer.

Part 2. What's in a Name?

Before you begin to set up the printer, take a moment to familiarize yourself with its main exterior parts. This short identification tour will also give you an opportunity to check the printer to insure that it has not been damaged in shipment.





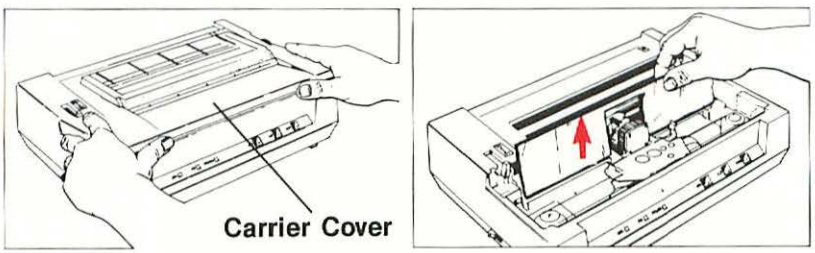
Part 3. Ready...

One of the key features of your new Apple Dot Matrix Printer is that you can set it up before you hook it up to your Apple Computer System. In this section you will learn how to load and replace a printer ribbon. You will also learn how to load and replace paper and to adjust the print head to handle multicopy printing jobs.

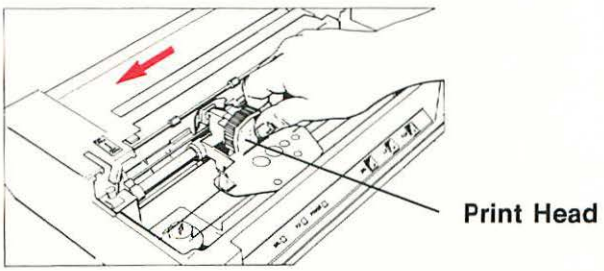
☐ Removing the Print Head Retainer

If you have not already removed the cardboard print head retainer, you must remove it before you proceed to set up your printer. Grasp the printer carrier cover from the front, and gently lift it off the printer.

Remove the cardboard retainer which holds the print head in place.



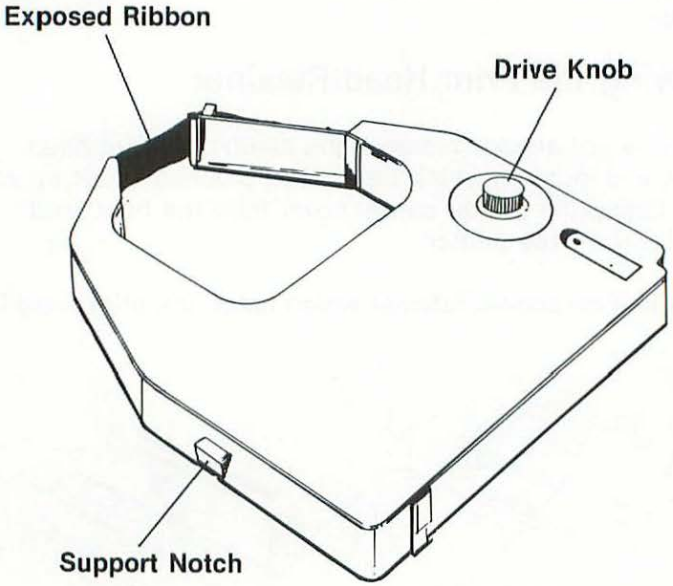
Move the print head to the left, as shown, to insure that it has not been damaged during shipping. The head will normally move with a slight drag and it will make a soft whirring noise as it moves.



Replace the printer carrier cover by snapping it back into position. Your new printer is ready to be set up and tested.

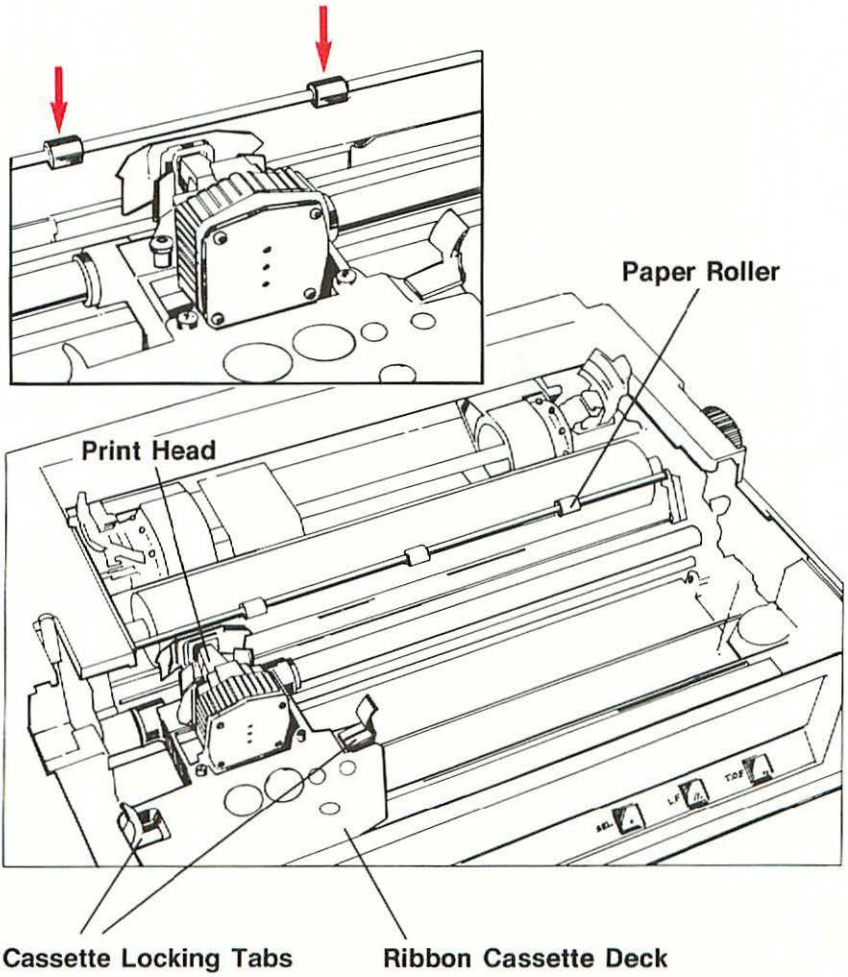
☐ Printer Ribbon Loading and Replacement

The Apple Dot Matrix Printer uses a continuous loop, inked fabric ribbon which is carried in a plastic cassette. The design of this ribbon cassette makes ribbon loading and replacement extremely easy.

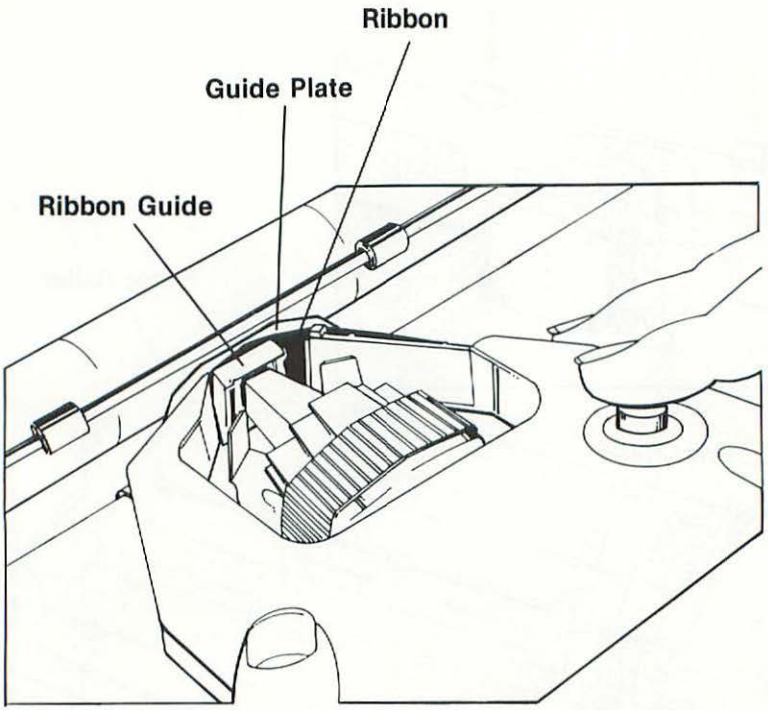


Remove the ribbon cassette from its wrapper. Turn the cassette drive knob in the direction of the arrow until the exposed ribbon is straight and taut across the cassette ribbon guides.

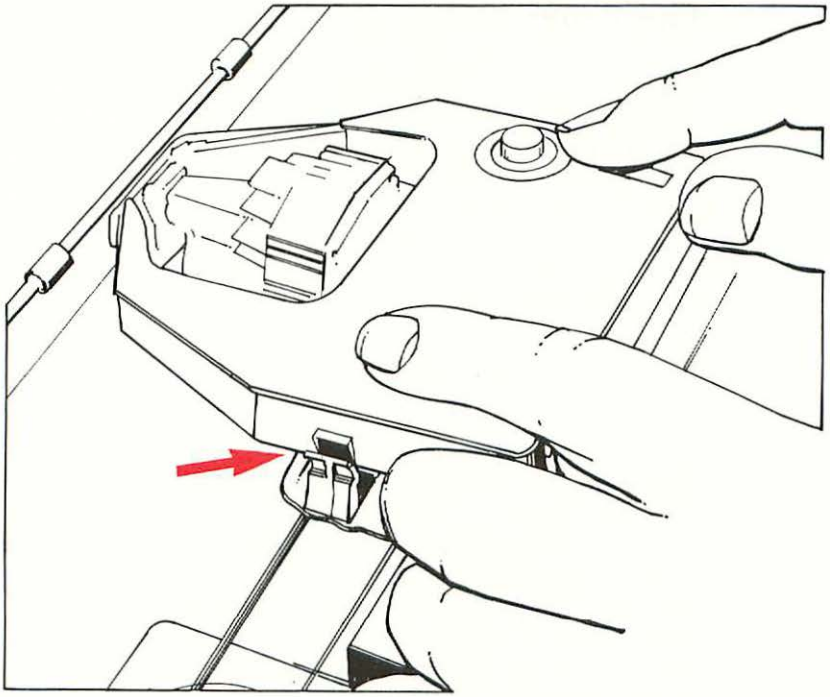
Lift the carrier cover off of the printer and place it to one side. Move the print head (by hand) to a position between two paper rollers, as shown in the illustration.
This positioning will greatly assist you in loading the ribbon cassette.



Holding the cassette in both hands and level with the ribbon cassette deck, carefully insert the exposed section of ribbon between the guide plate and ribbon guide. Make sure that the ribbon fits between these two parts.



Using both hands, gently press the cassette down onto the ribbon deck until it snaps into place. Check that the two cassette locking tabs are holding the small notches on the sides of the cassette.



Turn the cassette drive knob clockwise until the ribbon slips completely into place. The drive knob is now engaged with the printer cassette drive gear. It will normally make a clicking noise as you turn it.

If the ribbon cassette does not click into place or does not sit level on the ribbon cassette deck, remove it and repeat these steps.

Removing and replacing a ribbon simply requires that you gently push outward on the two ribbon cassette locking tabs that hold the cassette in place. Once the cassette is released, lift it off the cassette deck, making sure that the small section of exposed ribbon clears the ribbon guide and the paper rollers.

☐ Loading Paper

Your Apple Dot Matrix Printer will operate with just about any paper that you wish to use. It is best to use a hard surface bond paper or standard printer paper.

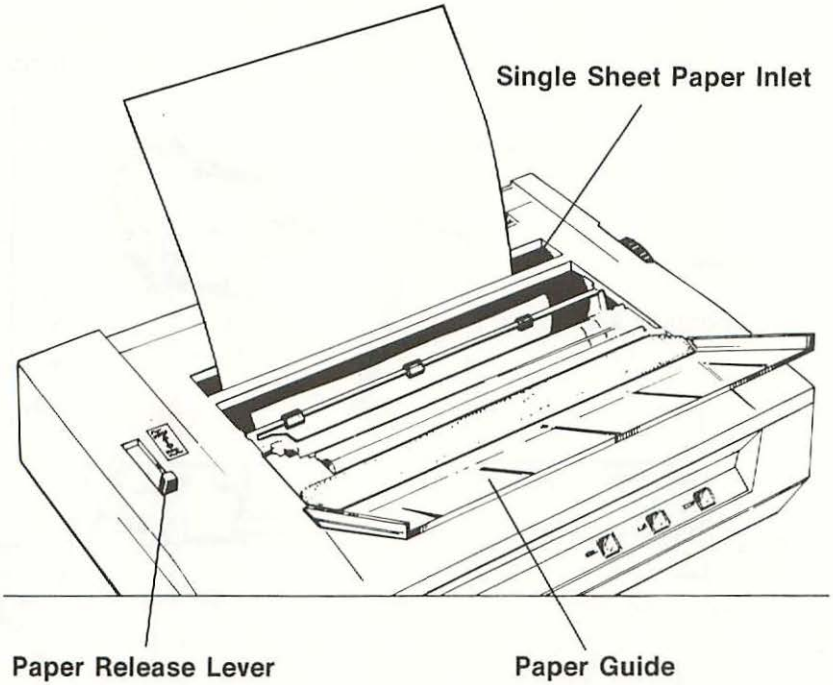
In addition to standard sprocket-driven, pin-feed paper, your new printer will handle single sheets with a friction-driven platen. The friction drive is similar to that on a standard electric typewriter.

Loading Paper—Friction Feed

Begin the friction feed loading process by moving the paper release lever backward to the "pin-feed" position. Pull the clear plastic paper guide toward you to get access to the paper inlet. Move the print head, by hand, all the way to the left. Pull the paper roller shaft away from the platen. Insert a sheet of paper in the paper inlet. Guide the paper downward until it passes under the platen. Move the release lever forward to the "friction" position. Turn the platen knob clockwise, and guide the paper until it clears the roller shaft. You can now align and position the paper as you would on a regular typewriter.

Move the release lever to the "pin-feed" position, and align the paper for the desired margins. Closely examine the roller shaft. Near both ends of the shaft you will notice a small red line. These red lines mark the limits of the print head typing. The lines are used to properly position your paper in the printer for the correct margins. When the paper is positioned to your satisfaction, reset the release lever to the "friction" position.

Reset the paper roller shaft against the paper. Close the clear plastic guide. You can now position the paper vertically for the first line of print by turning the platen knob.

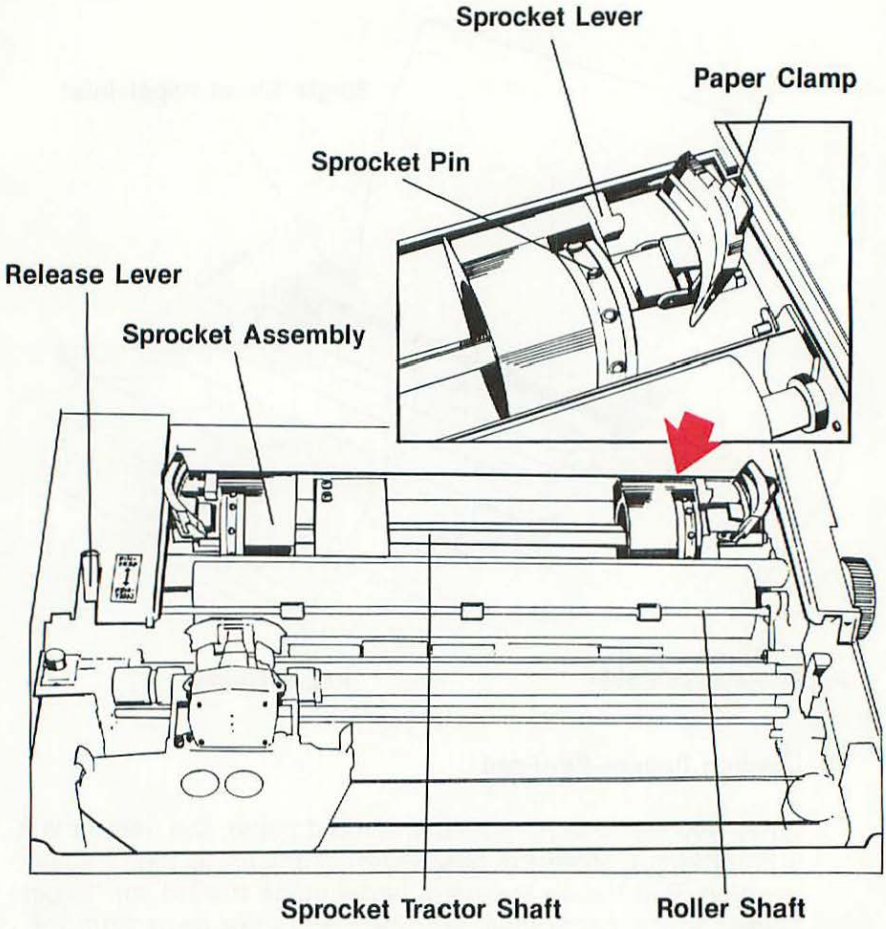


Loading Paper—Pin-Feed

When you are loading pin-feed, fanfold paper, the routine is a little different. Move the release lever forward to the "friction" position. Pull the clear plastic paper guide toward you to get access to the paper inlet. Pull the roller shaft away from the platen.

Remove the paper cover by pulling up on the right side of the cover at the pull arrow sign. Place the cover to one side.

You should now be able to see the entire sprocket tractor area.

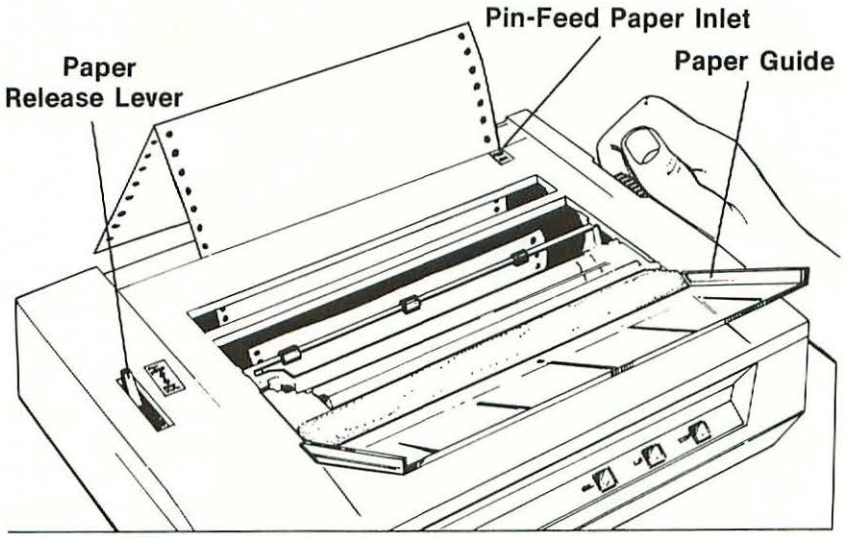


Open the two paper clamps. Fit the sprocket holes on the end of the paper onto the left sprocket pins, and close the paper clamp. Check to insure that the pin holes in the paper have set down over the sprocket pins. Follow these same steps, and load the paper on the right sprocket.

If the paper does not fit smoothly between the two sprockets, you can adjust the sprockets to match your paper width. Push backward on the white sprocket levers at the rear of the sprockets. The sprocket assemblies will now move freely along the sprocket tractor shaft.

Move the two sprocket assemblies, as needed, to match the width of your paper. Position the paper for the desired margins, and reset the white sprocket levers by pressing them forward to the lock position.

When you have the paper loaded and smoothly fitted between the sprockets, turn the platen knob slowly clockwise, and guide the paper by hand to the front of the platen. Press the roller shaft back against the paper. Move the release lever backward to the "pin-feed" position. Place the paper cover over the loaded paper and snap it into position.

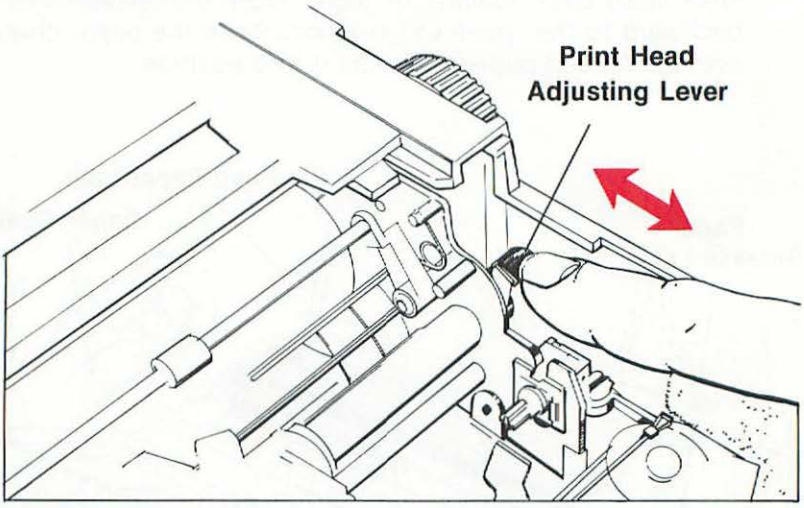


☐ Top-of-Form Adjustment

When you are using pin-feed, fanfold paper, the paper is fed continuously through the printer. After the paper has been inserted, you must position it vertically for the first line of printing. This is generally referred to as the T.O.F., or "top-of-form" position. Turn the platen knob, adjusting the first print line to the desired position in relation to the perforated top edge of the first sheet of paper. When the printer is later turned **ON** this procedure will automatically set the "top-of-form" position for all subsequent pages.

☐ Adjusting for Paper Thickness

Your new Apple Dot Matrix Printer is designed to handle various weights of paper, multicopy forms, and multipage printer paper. Adjusting the printer for paper thickness is very simple. Remove the carrier cover. A small adjusting lever is located on the right hand end of the tractor carriage.



When the adjusting lever is pushed towards the rear of the printer, the print head is set for single-sheet printing.

Moving the lever forward towards you will increase the number of pages the printer will accommodate. The lever has three additional settings. It will click at each of the wider gap settings as you move the lever forward.

☐ Removing Paper

As the paper nears its end in the printer, the red "paper empty," or P.E. indicator on the control panel will light up. Pull the paper guide toward you to get access to the paper. Turn the platen clockwise as you draw the paper out of the printer. **Do Not** pull the paper out of the platen by hand because you may tear the paper as you remove it.

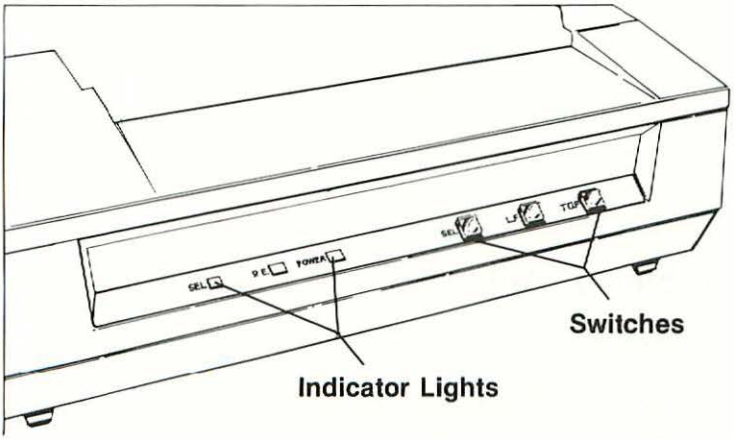
Part 4. ...Set...

Before you turn your new printer on, take a moment to familiarize yourself with the various control switches and lights and how they function.

Power Switch

The power switch is a two-way, rocker-type switch on the lower left hand side of the printer cabinet. It is clearly marked with **ON** and **OFF** positions.

When you press the power switch **ON,** the printer will power up, and the green power indicator light on the control panel will light up. The print head carriage will move to its normal, or "home" position on the far left. If there is no paper in the printer, the red P.E. light on the control panel will also light up.



Control Panel

SEL Switch

The SEL switch is a press button switch located on the front control panel. It controls the interface between your printer and the computer. The printer has two modes of operation. The first is "on-line," which means that the printer is under the control of your computer. In this

mode the green SEL indicator light will be lit. The second operational mode is "off-line," which means that you can control the printer independently from your computer. The SEL indicator light will be dark. When you press the SEL switch, you "select," or switch to one or the other operational modes.

L.F. Switch

The "line feed," or L.F. switch is also a press button switch on the front control panel. It will advance the paper one line at a time when it is pressed. This switch will operate only when your printer is in the "off-line" operational mode.

A single press of the L.F. switch advances the paper one line. If you press and hold the L.F. switch, the paper will advance one line at a time for four lines. On the fifth line, the paper will advance continually until you remove your finger from the switch.

T.O.F. Switch

The last press button switch on the control panel is the "top-of-form," or T.O.F. switch. It advances the paper to the first print line position on the next sheet of paper when you are using pin-feed, fanfold paper. Again, this switch is operational only when the printer is in the "off-line" mode.

Paper Empty Switch

The "paper empty" switch is a microswitch located beneath the printer platen. When the end of a sheet of paper passes the "paper empty" switch, the switch will automatically light the red P.E. indicator light on the control panel. It will also switch the printer into the "off-line" operational mode. Finally, it will stop the print head when it is approximately ¼" from the end of the sheet of paper. This last safety feature prevents any possible damage to the print head that might occur from printing without paper in the printer.

Carrier Cover Interlock Switch

Your Apple Dot Matrix Printer also has a built-in safety switch to protect the print head when the carrier cover is removed. Beneath the carrier cover on the left hand side of the platen is an interlock microswitch. The printer will cease printing and automatically shift to the "off-line" operational mode if the carrier cover is opened or removed.

The printer control panel has three indicator lights which help you to monitor the operation of the printer.

Power Light

The green POWER light will light up whenever the printer is plugged into an electrical outlet and the power switch is in the **ON** position.

P.E. Light

The red "paper empty," or P.E. indicator light will light up when there is no paper in the platen track. The light will also go on when a sheet of paper is near its end in the platen track. When there is paper loaded in the printer, the P.E. light will remain dark.

SEL Light

The green "select," or SEL light will light up when the printer is in the "on-line" operational mode. During "off-line" operation, the SEL light will remain dark. Your printer may at first operate with the SEL indicator light dark or lit. The start up condition of this function is controlled by the position of the printer DIP switches. Refer to the reference card to properly set these switches.

Part 5. ...GO.

Now that you have your printer all set up, it's time to turn it on. Check that the power switch is in the **OFF** position. Plug the power cord into the connector at the back of the printer and the power cord plug into a three-prong electrical outlet.

Press the power switch to the **ON** position.

The printer head will move to the far left "home" position. The platen will move slightly as it engages its drive. The green "POWER" light on the control panel will light up. If the printer does not come to life when you turn on the power switch, check the power cord and the plug to insure they are fully seated. You might also check to see that you are getting power at your electrical outlet.

When your printer lights up, you are ready to run a simple test to insure that it is properly set up.

Part 6. The Final Test

Your new Apple Dot Matrix Printer has a built-in, self-test function which allows you to test the operation of the printer. Running the test procedure will assure you that the printer is fully operational before you connect it to your computer system.

Before you begin the test, be sure that you have loaded the ribbon cassette and that there is paper in the printer. Operating the printer without a ribbon or paper can damage the print head.

Turn the power switch **ON.** Check to see that the print head moves to the far left "home" position. Turn the printer **OFF.**

Press the T.O.F. switch and hold it. Using your other hand, simultaneously turn the power switch **ON.** Release the T.O.F. switch.

The printer will print a line of preprogrammed test pattern, advance one line and continue to print.

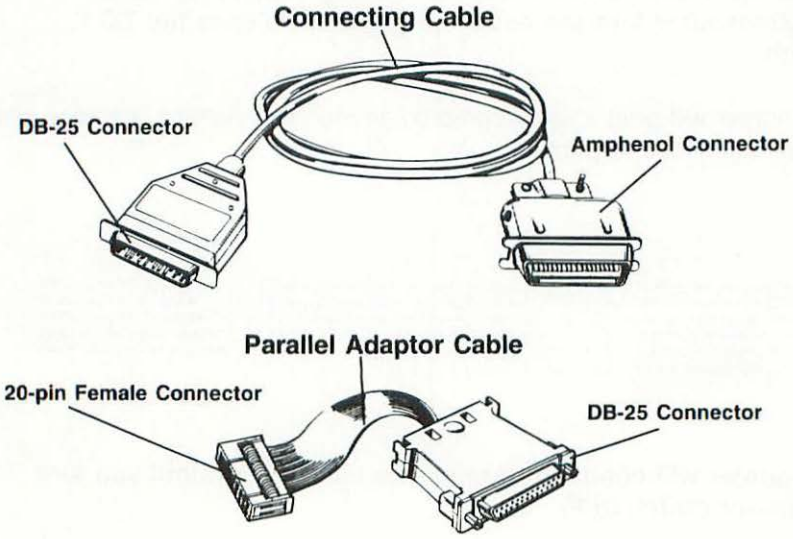
```
ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~ !"#$%&'()*+,-./01
BCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~ !"#$%&'()*+,-./012
CDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~ !"#$%&'()*+,-./0123
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EFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~ !"#$%&'()*+,-./012345
FGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghij
```

The printer will continue to print this test pattern until you turn the power switch **OFF.**

Part 7. The Grand Connection

The Apple Dot Matrix Printer has been specifically designed to connect to all Apple computers in both the Apple II Series and the Apple III Series. In the rear cover pocket of this Operator's Guide you will find a Dot Matrix Printer Reference Card. You will need to occasionally refer to this reference card as you connect and use your new printer. Once your printer is properly connected you can load and use the demonstration diskette in the front cover pocket to learn more about the many features of your new printer.

The Apple DMP Connecting Cable Kit contains two cables as shown in the illustration below.



You will need this connecting cable kit to connect your new printer to your computer equipment.

The remainder of this part of the Operator's Guide has been divided into two separate sections to guide you in connecting your printer to either Apple II Series or Apple III Series Computers.

If you are connecting your printer to an Apple III Computer, go to page 23.

If you are connecting your printer to an Apple II Series Computer, read on.

☐ Connecting the Apple Dot Matrix Printer to an Apple II Series Computer

You will need the following:

Apple II Parallel Interface Card

Apple DMP Connecting Cable Kit

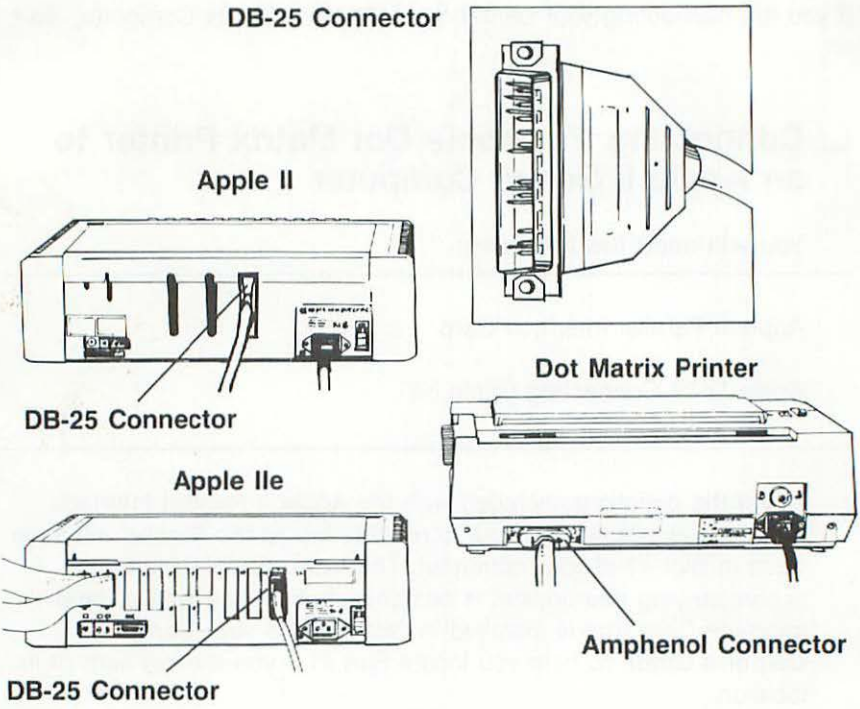
Using the directions included with the Apple II Parallel Interface Card, install the card in your computer. Install the Parallel Interface Card in Slot #1 of your computer. The instructional diskette accompanying this booklet is designed to interface with a Parallel Interface Card that is installed in Slot #1. Use your **Computer Owner's Guide** to help you locate Slot #1 if you are not sure of its location.

You must also be sure that the Parallel Interface Card DIP switches are set as shown below:

Apple II Parallel Interface Card DIP Switch Configuration

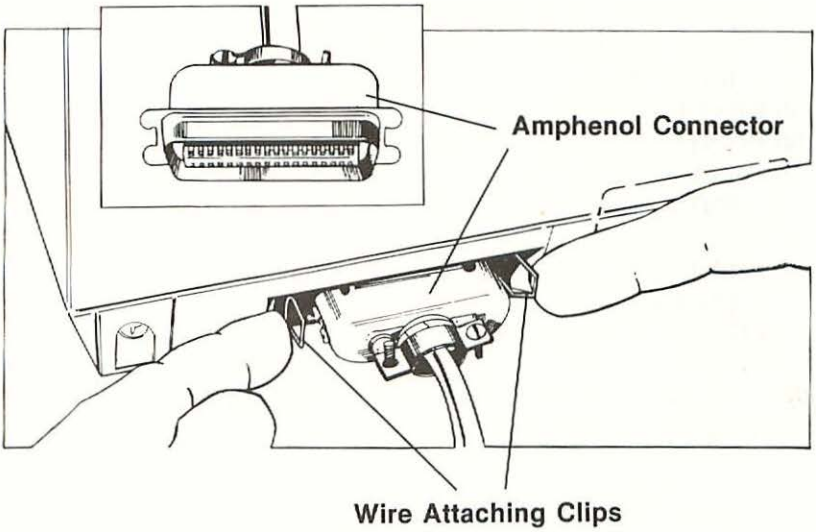
1	2	3	4	5	6	7
OFF	OFF	OFF	ON	ON	OFF	OFF

Make sure that your computer and your new printer are turned **OFF**. Remove the power cords from both pieces of equipment. This procedure will safeguard your equipment from any possible damage.



When connecting your printer to Apple II Series equipment you will only need to use the longer connecting cable from the DMP Connecting Cable Kit. Attach the DB-25 male connector on your printer connecting cable to the female receptacle on the Apple II Parallel Interface Card at the back of your computer cabinet. You should note that the connectors have a wide side and a narrow side. The matching sides of the connectors must be aligned before they will properly connect together.

Attach the male, 36-pin Amphenol Connector on the opposite end of the printer connecting cable to the Parallel Interface Connector at the rear of your printer. Again, you should note that these connectors can be properly connected in only one way.



When the connector has been fully seated, close the two wire attaching clips that lock the connector securely in place.

Reposition your computer and printer so that you can comfortably work at the computer keyboard while watching the printer. To get started, be sure that your printer is properly loaded with a ribbon cassette and some pin-feed, fanfold printer paper. It's now time to give your Apple II Series Computer and your new printer a test run.

☐ Performing a Test Run With an Apple II Series Computer

Be sure that the appropriate DOS diskette is installed in the boot disk drive. Turn **ON** your printer, computer and monitor. Check the SEL light on your printer control panel. If the SEL light is on, you are ready to proceed. If it is not lit, press the SEL button switch. The SEL indicator will light up.

When the cursor is fully visible on your monitor screen, type the following program into your computer. The program must be entered **exactly** as it appears on the next page.

```
 10 PR#1
 20 FOR I = 32 TO 111
 30 PRINT CHR$(I);
 40 NEXT I
 50 PRINT
 60 FOR I = 112 TO 127
 70 PRINT CHR$(I);
 80 NEXT I
 90 PRINT
100 PR#0: IN#0
110 END
```

When you type the command **RUN**, you should get a test pattern that looks like the following:

```
 !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmno
pqrstuvwxyz{|}~
```

If all went well, go to page **29** and read the section entitled **Getting the Most From Your New Printer.**

BUT. . .if you didn't get a printout, don't despair! Check out each of the following points to see if something is amiss.

First, type in the **LIST** command, and list the program you entered. Compare the listed program with the one shown above. Do they match exactly? If they don't match, make the corrections, and run the program again. If the program is correct but you still don't get a printout, check the following:

- Electrical and interface connections.
- The green SEL indicator light on your printer is lit.
- Your installation of the Apple II Parallel Interface Card.

When you have checked each of these possibilities, give the program another try. If you are still encountering difficulty, give your Apple dealer a call and ask for a little assistance.

Assuming that you have gotten a good test pattern printout from your computer, it's now time to learn just how well your new printer will perform. Turn to page **29** and carry on!

☐ Connecting the Apple Dot Matrix Printer to an Apple III Series Computer

You will need the following:

Apple III Universal Parallel Interface Card

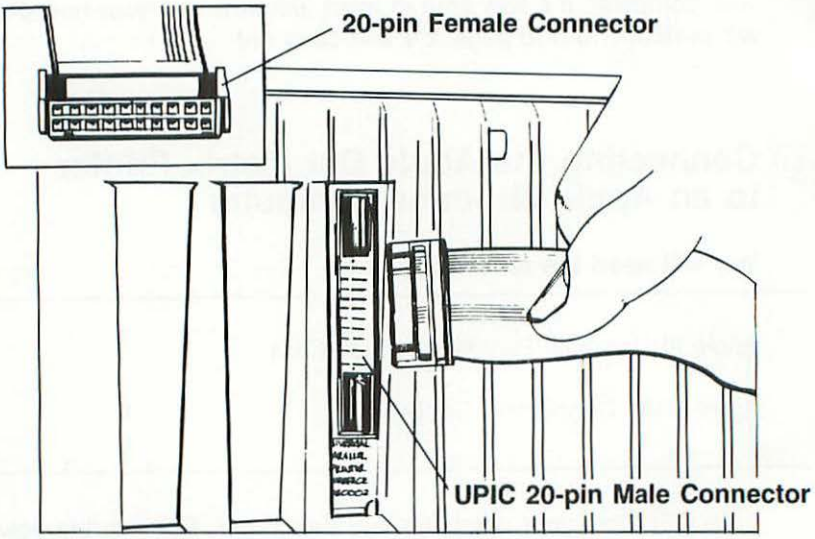
Apple DMP Connecting Cable Kit

Turn **OFF** both your computer and the printer. Remove the power cords from both pieces of equipment. This procedure will help to safeguard your equipment against any possible damage.

Install the Apple III Universal Parallel Interface Card (UPIC), following the directions that accompany the card. Install the UPIC in Slot #1. Use your **Computer Owner's Guide** to help you locate Slot #1 if you are unsure of its location.

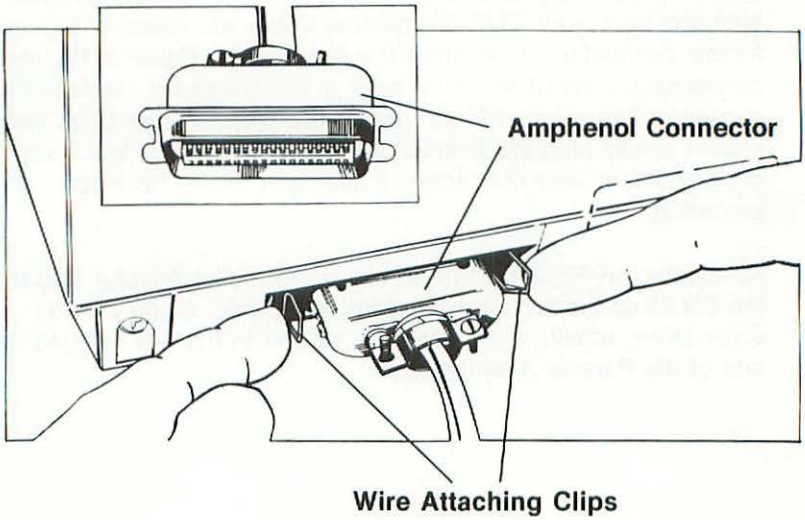
When connecting your printer to an Apple III computer you will use both cables in your DMP Connecting Cable Kit. Attach the 20-pin female connector on the short Parallel Adapter Cable to the male connector on the UPIC at the back of the computer cabinet. This connector can be installed in one of two ways. At this point you should simply plug the connector into the UPIC. You will verify the correctness of your connection a little later in this hook-up procedure.

Attach the DB-25 connector on the long Parallel Adaptor Cable to the DB-25 connector on the Connecting Cable. Using a small screwdriver, attach and tighten the screws to the hex nuts on the end of the Parallel Adaptor Cable.



Attach the 36-pin, male Amphenol Connector on the opposite end of the Connecting Cable to the Parallel Interface Connector at the rear of your printer. You should note that these connectors can be properly connected in only one way.

When the connector has been fully seated, close the two wire attaching clips that lock the connector securely in place.



Reposition your computer and printer so that you can comfortably work at the computer keyboard while watching the printer. Make sure that your printer is loaded with a ribbon cassette and some pin-feed, fanfold printer paper.

☐ Installing the Printer Device Driver

The Apple III computer's Sophisticated Operating System (SOS) uses special programs called **device drivers** to communicate with all peripheral devices. Whether a given device is built in or added to your system later, SOS uses a device driver to exchange information with it. Many software application programs do not have the appropriate device driver installed to permit communications between your Apple III computer and your new Dot Matrix Printer. Before applications programs, such as Apple Writer III or Mail List Manager can be used in conjunction with your Dot Matrix Printer, you must add the appropriate software driver to the applications program diskette.

The device driver for your Dot Matrix Printer is included on the Universal Parallel Interface Card software diskette under the name of ".PRINTER". This special device driver must be installed on any software application program you wish to use in conjunction with your new printer.

The procedures you must follow to install a device driver for your Dot Matrix Printer are described in the **UPIC Installation and Operating Manual** under the heading "Preparing and Installing a Device Driver." You should also have on hand your System Utilities diskette which will be needed to reconfigure your system. Be sure to use the device driver entitled ".PRINTER" on the UPIC diskette during the installation procedures. You must also edit the device driver parameters to reflect the following:

Apple III Series Driver Configuration Block

0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	00	00	00	0A											

NOTE: Some software application programs may have a ".PRINTER" device driver already installed. This driver is most likely a driver for a serial type printer such as the Apple Daisy Wheel Printer. It will not work with your Dot Matrix Printer. If you wish to retain this serial printer driver you will need to use a driver name other than ".PRINTER" for your Dot Matrix Printer driver, for example, ".PPRINTER" for parallel printer.

If the Dot Matrix Printer will be the only printer on your system, you may wish to delete the serial printer driver.

When you have modified the driver configuration, make sure that you install the new configuration in the SOS Driver file of your application diskette. When this procedure is complete, the Dot Matrix Printer driver will automatically be loaded into your Apple III each time the applications diskette is booted. Remember, this new printer device driver must be on each applications diskette you wish to use in conjunction with your new printer.

☐ Performing a Test Run With an Apple III Series Computer

This section presents two different routines that can be used to perform a test run of your printer with an Apple III Series computer. The first test procedure requires an **Apple Business BASIC** diskette. The second test procedure uses the Apple III System Utilities diskette. If you do not have a Business BASIC diskette, skip to **Test 2** on page **28**. If you have Business BASIC follow the procedures listed below under **Test 1.**

☐ **TEST 1** Once you have installed a DMP device driver on your Apple Business BASIC diskette, you can use it to perform this test run procedure:

Turn your printer, computer, and monitor **ON**. Check to see that the SEL light on your printer is glowing a bright green.

Insert the Business BASIC diskette in the internal disk drive, and "boot" the system by pushing the **CONTROL-RESET** button.

Enter the following program into your Apple III. The program must be entered **exactly** as it is shown below to work properly.

```
 10 OUT$ = ".PRINTER"      (use your new device driver name
 20 OPEN #1, OUT$          here, if it is something other than
 30 FOR I = 32 to 111      .PRINTER )
 40 PRINT#1;CHR$(I);
 50 NEXT I
 60 PRINT #1
 70 FOR I = 112 TO 127
 80 PRINT #1; CHR$(I);
 90 NEXT I
100 PRINT #1
110 CLOSE #1
120 END
```

When you type the command **RUN**, you should get a test pattern that looks like this:

```
 !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmno
pqrstuvwxyz{|}~
```

If all went well, go to page **29** and read the section entitled **Getting the Most From Your New Printer.**

BUT. . . if you didn't get a printout, don't throw in the towel just yet! Take a few minutes to check the following points:

List the program you entered to check its completeness and correctness. Compare the listed program with the program above. Do they match exactly? If they don't match, make any corrections that are necessary, and run the program again. If your program is correct but you still don't get a printout, go through the following check list.

CHECK LIST:

- The electrical and interface connections.
- See that your printer SEL light is lit.
- Your installation of the Apple III Universal Parallel Interface Card.
- Turn **OFF** your computer and remove the 20-pin female connector on the UPIC at the back of the computer cabinet. Turn the 20-pin female connector over and reconnect it to the UPIC male connector.

If you've checked each of these areas, run the program again. If it still doesn't run properly, give your Apple dealer a call and ask for a little assistance.

Once you have gotten a good test run printout, it's time to learn just how well your new printer can perform.

If all went well, go to page **29** and read the section entitled **Getting the Most From Your New Printer.**

☐ **TEST 2** If you do not have an **Apple Business BASIC** diskette, you can use the System Utilities diskette that comes as a part of your Apple III Computer System Software to run a printer test.

Using the UPIC diskette, install a DMP driver on your System Utilities diskette. Load the reconfigured System Utilities diskette into your computer.

When the diskette menu appears on the screen, select the option: **F-**File Handling Commands.

When the File Handling Commands Menu appears on the screen select the option: **L-**List Files.

Type in the request **.D1** to list the files on the utilities diskette in drive one and press **RETURN**.

Request **ALL** and press **RETURN.**

Request **.PRINTER** or the new DMP printer device driver name if it is different, and press **RETURN.**

At this point a catalog listing similar to the one below will be printed out on your printer:

```
/UTILITIES              Size   Modified  Time  File type  Eof Phys
  *SOS.KERNEL             43   4-Sep-81  0:00  Sosfile    512   44
  SOS.DRIVER              27  27-May-82  0:00  Sosfile    512   28
  *SOS.INTERP             27  11-Sep-81  0:00  Sosfile    512   28
  *SYSTEM.PASCAL          45  11-Sep-81  0:00  Codefile   512   46
  SYSTEM.MISCINFO          1  11-Sep-81  0:00  Datafile   512    1
  *SYSTEM.STARTUP        123  11-Sep-81  0:00  Codefile   512  124
6 files listed, 2 blocks available
```

If you do not get this printout don't panic. Take a few moments and go through the **Check List** on page **27**.

If all went well go to page **29** and read the section entitled **Getting the Most From Your New Printer.**

☐ Getting the Most From Your New Printer

Your Apple Dot Matrix Printer is now ready to show you how well it can perform. To introduce you to the many features of this new printer, a special demonstration diskette has been prepared to put the printer through its paces. The diskette can be used on both Apple II and Apple III Series Computers. Since the programs are written in Applesoft Basic, you will need to use an Apple II Emulation Diskette if you are going to use the diskette on an Apple III Series Computer.

Apple II Systems

Insert the diskette in Disk Drive 1 of your Apple II and "boot" the system by either turning on power to the computer or typing the standard **PR#6.** After a few seconds a high resolution picture will appear. The program will then continue and you will have several choices from a **main menu.**

Apple III Systems

Insert the Apple II Emulation Diskette into the internal drive of the Apple III and "boot" the system by either turning on the computer; or, if the computer is already on, by pressing the **RESET** button while holding down the **CONTROL** key at the same time. After a few seconds you will be presented with a **menu**. Remove the Emulation Diskette and insert the demonstration diskette into the internal drive. Press the **RETURN** key and the diskette will begin to run. After a few seconds, a high resolution picture will appear. The program will then continue and you will have several choices from a **main menu**.

If you are running the program for the first time, you should go through the entire tutorial to get an overview of the capabilities of your printer. You will be able to learn how well your new Dot Matrix Printer can rapidly produce clearly typed text, boldface type, underlined text, and quality graphs, tables and charts.

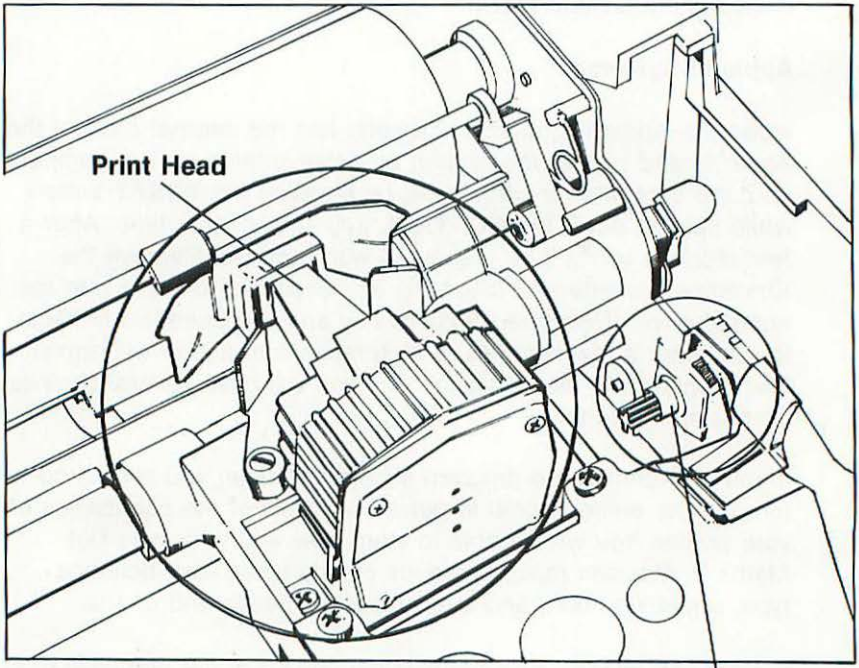
A SPECIAL NOTE: The instructional portion of the demonstration can be printed on your Dot Matrix Printer by simply pressing the **P** key whenever the screen indicates this capability. In this way, you can create your own paper copy of the course for later reference.

Part 8. Clean-up and Maintenance

Your new Apple Dot Matrix Printer is relatively maintenance-free; but there are several cleaning and lubricating chores which, if performed routinely, will insure proper printer operation and prolong your printer's performance.

☐ Cleaning

Periodically inspect and clean the area around the print head and the detector. Remove the carrier cover and check these parts for an accumulation of ribbon chips and paper dust. Remove the ribbon cassette and clean these parts with a small typewriter brush.

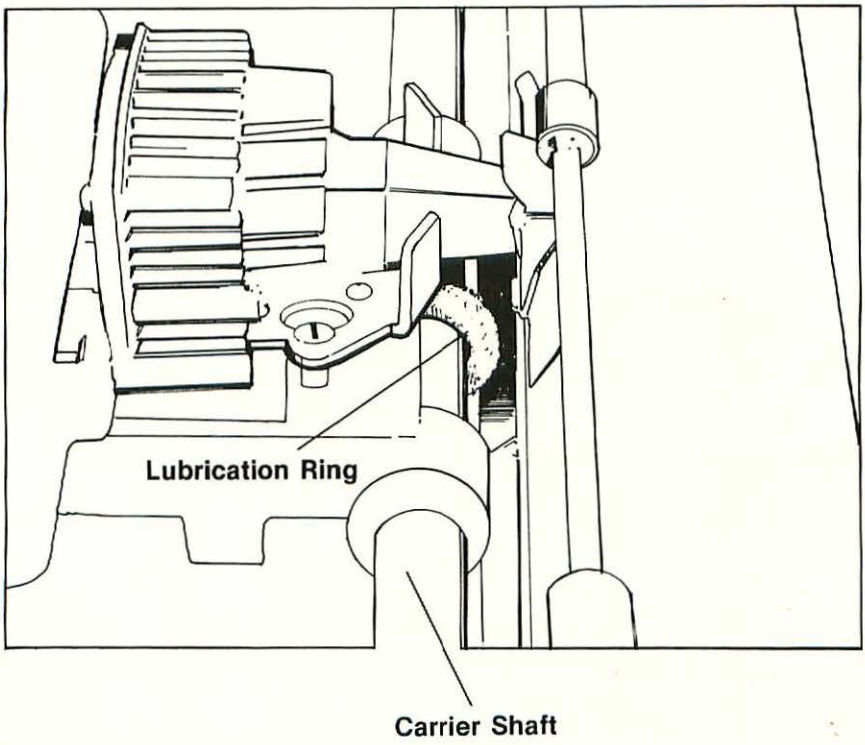


Do Not use any detergents or solvents when you clean your printer.

You may clean the exterior cabinet of your printer with a soft cloth and a weak solution of water and liquid soap. Be sure that you disconnect the power cord before you clean any portion of the printer.

☐ Lubrication

You should lubricate your printer at least once a year. Remove the carrier cover and clean the print head carrier shaft and carrier guide shaft with some absorbent cotton. Then apply several drops of light machine oil to the felt lubrication ring. Use only light machine oil to perform this lubrication.



NOTES

Apple Dot Matrix Printer Command Set

ASCII Symbol(s)	Hex Code	Decimal Code	Resulting Printer State
Page Formatting Commands			
ESC L n2 n1 n0	1B 4C n2+30 . . . n0+30	27 76 n2+48 . . . n0+48	Set Left Margin to Column n; "000"<=n<"999" col is 1 char width, 16 dots if proportional
ESC (a2 a1 a0 .	1B 28 a2+30 . . . a0+30 2E	27 40 a2+48 . . . a0+48 46	Set 1. .32 Horizontal Tab(s) at column a [, column b . . . , column n] . Each column no. must be 3 digits long. Parameters must be terminated by a period. If setting multiple tabs, separate each column parameter with a comma; eg. to set 2 tabs, send ESC (a2 a1 a0 , b2 b1 b0 . Leftmost column is 1. "001<=n<="999"
ESC) a2 a1 a0 .	1B 29 a2+30 . . . a0+30 2E	27 41 a2+48 . . . a0+48 46	Clear Selective Tab(s). See above description.
ESC 0	1B 30	27 48	Clear All Tab(s)
Horizontal/Vertical Spacing Commands			
ESC n	1B 6E	27 110	9 cpi (72 dpi, 576 dots/line)
ESC N	1B 4E	27 78	10 cpi Pica (80 dpi, 640 dots/line)
ESC E	1B 45	27 69	12 cpi Elite (96 dpi, 768 dots/line)
ESC q	1B 71	27 113	15 cpi (120 dpi, 960 dots/line)
ESC Q	1B 51	27 81	17 cpi (136 dpi, 1088 dots/line)
ESC P	1B 50	27 80	Proportional-1 (160 dpi, 1280 dots/line)
ESC p	1B 70	27 112	Proportional-2 (144 dpi, 1152 dots/line)
ESC 1	1B 31	27 49	Space 1 Dot Between Prop-1 Characters (Default is 1-dot space) Send ESC 1. . .ESC 6 after ea. char.
ESC 2	1B 32	27 50	Space 2 Dots Between Prop-1 Characters
ESC 3	1B 33	27 51	Space 3 Dots Between Prop-1 Characters
ESC 4	1B 34	27 52	Space 4 Dots Between Prop-1 Characters
ESC 5	1B 35	27 53	Space 5 Dots Between Prop-1 Characters
ESC 6	1B 36	27 54	Space 6 Dots Between Prop-1 Characters
ESC A	1B 41	27 65	1/6-inch Line Feed
ESC B	1B 42	27 66	1/8-inch Line Feed
ESC T n1 n0	1B 54 n1+30 n0+30	27 84 n1+48 n0+48	n/144-inch Line Feed; "00"<=n<="99"
Printer System Configuration Commands			
DC1	11	17	Select printer (online)
DC3	13	19	Deselect printer (offline)
ESC D sw1 sw2	1B 44 sw1 sw2	27 68 sw1 sw2	Close (ON) DIP Switches Indicated by sw1 and sw2 OR Masks: sw1: 16 (decimal) Disable SELECT/DESELECT signals sw1: 32 If full data buffer printed out, send LF sw1: 64 Print commands: CR, LF, VT, and FF. sw1: 128 LF executed after CR sw2: 1 Print number zero with slash sw2: 32 7-bit data byte sw1 national character set codes: 0 English (US) 5 Swedish Usually requires 2 steps: 1 Italian 6 French ESC D chr(sw1) NUL 3 English (UK) 7 Spanish ESC Z chr((sw1)XOR(7)) NUL 4 German
ESC Z sw1 sw2	1B 5A sw1 sw2	27 90 sw1 sw2	Open (OFF) DIP Switches Indicated by sw1 and sw2 Masks: sw1: 16 (decimal) DESELECT/SELECT signals effective sw1: 32 No LF after data-buffer-full printout sw1: 64 CR is the only print command code sw1: 128 No LF after CR sw2: 1 Print number 0 without slash sw2: 32 8-bit data byte
ESC >	1B 3E	27 62	Unidirectional Print
ESC <	1B 3C	27 60	Bidirectional Print
ESC f	1B 66	27 102	Forward Line Feeds
ESC r	1B 72	27 114	Reverse Line Feeds
CAN	18	24	Cancel Current Line (text only)
DEL	7F	127	(DMP ignores this code).
Character Commands			
ESC !	1B 21	27 33	Select Bold Print
ESC "	1B 22	27 34	Deselect Bold Print
SO	0E	14	Select Elongated Characters
SI	0F	15	Deselect Elongated Characters
ESC X	1B 58	27 88	Start Underline
ESC Y	1B 59	27 89	Stop Underline
ESC +	1B 2B	27 43	Custom Char Size = 8xn (n<=16)
ESC -	1B 2D	27 45	Custom Char Size = 8xn (n<=8)
ESC I <list> EOT	1B 49 <list> 04	27 73 <list> 04	Load Custom Character(s)
ESC $	1B 24	27 36	Select Current Standard Font
ESC '	1B 27	27 39	Select Custom Font
ESC *	1B 2A	27 42	Select Alternate Custom Font, 7 bit, A0-EF
Position Print Head Commands			
ESC F n3 n2 n1 n0	1B 46 n3+30 . . . n0+30	27 70 n3+48 . . . n0+48	Move Print Mech to Dot Position N, Relative to Left Mar.
HT	09	09	Horizontal Tab
SP	20	32	Space
BS	08	08	Backspace
CR	0D	13	Position at Left Margin
FF	0C	12	Form Feed
VT	0B	11	Vertical Tab
LF	0A	10	Line Feed
Text-Mode Output Commands			
ESC R n2 n1 n0	1B 52 n2+30 . . . n0+30	27 82 n2+48 . . . n0+48	Repeat Next Character in Buffer N Times "001"<=N<="999"
Graphics-Mode Output Commands			
ESC G n3 n2 n1 n0 or ESC S n3 n2 n1 n0	1B 47 n3+30 . . . n0+30 1B 53 n3+30 . . . n0+30	27 71 n3+48 . . . n0+48 27 83 n3+48 . . . n0+48	Print N Dot Positions of 8 x 1 Graphics Characters "0001"<=N<="9999"
ESC V n3 n2 n1 n 0	1B 56 n3+30 n2+30 . . . n0+30	27 86 n3+48 n2+48 . . . n0+48	Repeat Next Byte in Buffer for N Dot Positions "0001"<=N<="9999"

apple computer

DOT MATRIX PRINTER REFERENCE CARD

Apple Dot Matrix Printer Hardware Configuration

Apple II Series computers should be connected to the DMP with:
Apple Parallel Interface Card #A2B0021 and an Apple Parallel Interface Cable #A2M00052.

Refer to your Apple II Parallel Interface Card Instructions and Operating Manual for Dip Switch definition. Refer to the following Configuration table to set up your system.

Apple II Parallel Interface Card DIP Switch Configuration

1	2	3	4	5	6	7
OFF	OFF	OFF	ON	ON	OFF	OFF

Apple III Series Computers should be connected to the DMP with Apple Universal Parallel Interface Card #A3B0002.
If the Apple III UPIC has a DB-25 connector you should use an Apple Parallel Interface Cable #A2M0052 to connect the computer.
If the Apple III UPIC has a 40 pin connector you should use an Apple Parallel Interface Cable #A2M0052 and Parallel Adapter Cable #A3M0022 to connect the computer.

Refer to the Apple III UPIC Installation Manual to install the Apple III Series .PRINTER SOS Driver. Refer to the following Configuration Block Table to configure your Dot Matrix Printer driver using the system configuration program on the utilities diskette.

Apple III Series Driver Configuration Block

0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	00	00	00	0A											

Apple Dot Matrix Printer DIP Switch Configuration

When you look at the two DIP Switches inside your Dot Matrix Printer they will appear upside down and backwards. The configuration chart has been presented from the same perspective to simplify setting the switches correctly.

Switch 1 (sw1) Configuration

8	7	6	5	4	3	2	1
1: CR + LF	1: Print On CR, LF, VT, FF	1: CR/LF with Buffer Full	1: Ignore DC1, DC3	1: 72-Line TOF/TOF	Language Character Set Options		
*0: CR Only	*0: PRINT After CR	*0: No CR/LF on Buffer Full	*0: Enable Remote Select, Deselect	*0: 66-Line TOF/TOF	*000: English (US) 001: Italian 011: English (UK) 100: German	101: Swedish 110: French 111: Spanish	

1 = Switch Closed, 0 = Switch Open, * = Standard Switch Setting

Switch 2 (sw2) Configuration

8	7	6	5	4	3	2	1
1: Unidirectional	1: Power-On Select	*1: 7-Bit Data	1: Proportional	NOT USED	NOT USED	1: Single Line Buffer	1: Slash Zero
*0: Bidirectional	*0: Power-On Deselect	0: 8-Bit Data	*0: 10 cpi	NOT USED	NOT USED	*0: N-Line Buffer	*0: Do Not Slash Zero

1 = Switch Closed, 0 = Switch Open, * = Standard Switch Setting

Apple Dot Matrix Printer Character Set

ASCII	DEC	HEX	ASCII	DEC	HEX	ASCII	DEC	HEX	ASCII	DEC	HEX
NUL	00	00	SP	32	20	*②	64	40	*⑦	96	60
SOH	01	01	!	33	21	A	65	41	a	97	61
STX	02	02	"	34	22	B	66	42	b	98	62
ETX	03	03	*⓪	35	23	C	67	43	c	99	63
EOT	04	04	*①	36	24	D	68	44	d	100	64
ENQ	05	05	•	37	25	E	69	45	e	101	65
ACK	06	06	&	38	26	F	70	46	f	102	66
BEL	07	07	'	39	27	G	71	47	g	103	67
BS	08	08	(	40	28	H	72	48	h	104	68
HT	09	09	)	41	29	I	73	49	i	105	69
LF	10	0A	★	42	2A	J	74	4A	j	106	6A
VT	11	0B	+	43	2B	K	75	4B	k	107	6B
FF	12	0C	,	44	2C	L	76	4C	l	108	6C
CR	13	0D	–	45	2D	M	77	4D	m	109	6D
SO	14	0E	.	46	2E	N	78	4E	n	110	6E
SI	15	0F	/	47	2F	O	79	4F	o	111	6F
DLE	16	10	0	48	30	P	80	50	p	112	70
DC1	17	11	1	49	31	Q	81	51	q	113	71
DC2	18	12	2	50	32	R	82	52	r	114	72
DC3	19	13	3	51	33	S	83	53	s	115	73
DC4	20	14	4	52	34	T	84	54	t	116	74
NAK	21	15	5	53	35	U	85	55	u	117	75
SYN	22	16	6	54	36	V	86	56	v	118	76
ETB	23	17	7	55	37	W	87	57	w	119	77
CAN	24	18	8	56	38	X	88	58	x	120	78
EM	25	19	9	57	39	Y	89	59	y	121	79
SUB	26	1A	:	58	3A	Z	90	5A	z	122	7A
ESC	27	1B	;	59	3B	*③	91	5B	*⑧	123	7B
FS	28	1C	<	60	3C	*④	92	5C	*⑨	124	7C
GS	29	1D	=	61	3D	*⑤	93	5D	*⑩	125	7D
RS	30	1E	>	62	3E	*⑥	94	5E	*⑪	126	7E
US	31	1F	?	63	3F	—	95	5F	DEL	127	7F

*○ Reference numbers can be interpreted by referring to the Apple Dot Matrix Printer Extended Character Set (For Foreign Languages) table below.

Apple Dot Matrix Printer Extended Character Set (For Foreign Languages)

REF. NO.	0	1	2	3	4	5	6	7	8	9	10	11
HEXADECIMAL	23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
ENGLISH (USA)	#	$	@	[	\	]	^	`	{	\|	}	~
ENGLISH (UK)	£	$	@	[	\	]	^	`	{	\|	}	~
GERMAN	#	$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
FRENCH	£	$	à	°	ç	§	^	`	é	ù	è	¨
ITALIAN	£	$	§	°	ç	é	^	ù	à	ò	è	ì
SWEDISH	#	$	@	Ä	Ö	Å	^	`	ä	ö	å	~
SPANISH	£	$	§	¡	Ñ	¿	^	`	°	ñ	ç	~

apple computer

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